AGENDA

WGNE/PCMDI[1] Systematic Errors Workshop
February 12-16, 2007, San Francisco
Financial District Hilton, Kearny St

SUNDAY February 11

5-7PM

Early Registration (Hilton hotel, 3rd floor)

MONDAY February 12: Invited talks all day

7:30-8:45 AM

Registration (Hilton hotel, 3rd floor)
Continental breakfast

[1] Support for this workshop has been provided by the U.S. Department of Energy's Office of Science via the Program for Climate Diagnosis and Intercomparison. Additional support has been provided by the WMO's Commission for Atmospheric Sciences and the World Climate Research Programme.

8:45-9:10AM

Intro:

Martin Miller (WGNE errors workshop background),
Dave Bader (PCMDI welcome)
Peter Gleckler (workshop expectations)

9:10-9:45AM

Karl Taylor: Uses of metrics in the evaluation and application of climate models

9:50-10:25AM

Bill Collins: Radiation errors in climate models

10:30-11:00AM **BREAK**

11:00-11:35AM

Julia Slingo: Systematic errors in the tropics and the role of multi-scale interactions

11:40AM-12:15PM

Eric Guilyardi: Understanding El Niño in OAGCMs

12:20PM – 2:00PM **LUNCH**

2:00-2:35PM

Tim Stockdale: The impact of model error on ENSO forecast performance

2:40-3:15PM

Ed Schneider: Recent efforts to alleviate tropical biases

3:20-3:50PM **BREAK**

3:50-4:25PM

Alan Betts: The land-surface-cloud interaction

4:30PM-5:05PM

Steve Klein: What can climate modelers learn from a weather forecasting approach about errors in the parameterization of atmospheric moist processes?

5:10PM-5:45PM

Sean Milton: Systematic Errors in Parametrizations in Global NWP : Evaluation against observational data and budget studies

6:00-7:30PM: **Ice-breaker**

TUESDAY - "SHORTER" TIME-SCALES

8:15-9AM Continental breakfast

9:00-9:35AM
Gill Martin (invited): Analysis and reduction of climate model systematic errors through a unified modelling strategy

9:40-09:55AM
Gab Abramowitz: Systematic bias and model independence in land surface models

10:00-10:15AM
Jon Petch: The role of SCMs and CRMs for investigating biases in NWP and climate models

10:20-10:35AM
Glenn White: Systematic errors in the NCEP Global Forecast System

10:40-11:10
BREAK

11:10-11:45AM
Yoshiaki Takeuchi (invited): Systematic error in tropical cyclone track forecasts from operational global models

11:50-12:05PM
Mark Rodwell: Using NWP to Assess Climate Models

12:10-12:25PM
Jane Strachan/Pete Inness: Exploring systematic errors in the Maritime Continent region in an atmospheric GCM

12:30PM – 1:45PM
LUNCH

1:45 - 3:15PM BREAKOUTS:
Metrics
Perturbed physics ensembles

3:30 – 6:00PM: SHORTER TIME SCALE POSTER DISCUSSIONS

1. **Evaluation of the Radiative Energy Budget in Climate and NWP Models Using Satellite Data, Reanalyses and Ground-based Observations:** Allan, Richard, Anthony Slingo, Sean F. Milton, and Malcolm E. Brooks

2. **The Land-Surface-Cloud Interaction:** Betts, Alan

3. **Diurnal Ocean-Atmosphere Coupling and Its Climate Impacts:** Bernie, Dan, S.J.Woolnough, E.Guilyardi, G.Madec, J.M.Slingo, and J.Cole

4. **The Aqua-Planet Experiment: Comparison of Atmospheric GCM Simulations on a Water-Covered Earth:** Blackburn, Michael, Brian J. Hoskins, and David L. Williamson

5. **Combining Top-Down and Bottom-Up Approaches to Improve Boundary Layer Parametrization for NWP and Climate:** Brown, Andrew, Bob Beare, Anton Beljaars, Hans Hersbach and Adrian Lock

6. **A Comparison of the Stratus Clouds in the NCEP CFS03 and NCAR CCSM3:** Chang, Ching-Yee

7. **The NCAR CCM as a Numerical Weather Prediction Model:** Cocke, Steve

8. **The Sensitivity of HadGAM1 Dynamics to the Vertical Structure of Tropical Heating:** Dearden, Chris

9. **Tendency Errors in a Climate Model: Iterative Estimation:** Deque, Michel

10. **Physical Features and Climatology of the Forecast Minus Analysis PV Field:** Didone, Marco, Huw C. Davies

11. **The Impact of a Dynamic CAPE Timescale on the Surface Energy Budget in the Hadley Centre GCM:** Donners, John and Pier Luigi Vidale

12. **The Impact of a Dynamic CAPE Timescale on Precipitation Variability and Distribution in the Hadley Centre GCM:** Vidale, Luigi and John Donners

13. **Forecasts of Southeast Pacific Stratocumulus with the NCAR, GFDL and ECMWF Models:** Hannay, Cecile, Dave Williamson, Jeff Kiehl, Jim Hack, Jerry Olson, Chris Bretherton, Steve Klein and Martin Koehler

14. **Elucidating Model Inadequacies in a Cloud Parameterization by use of an Ensemble-Based Calibration Framework:** Hansen, J.A., Jean-Christophe Golaz and Vince E. Larson

15. **Systematic Error Growth Rate in the mm5 Model:** Ivanov, S.,Y.Palamarchuk

16. **A Cascade Type of Energy Conversion Diagram Based on Mass-Weighted Isentropic Zonal Means and Its Application to Model Diagnosis:** Iwasaki, Toshiki

17. **Evaluation of Precipitation Extremes Simulated by a Global 20-km-grid Atmospheric Model using L-moments Method:** Kamiguchi, Kenji

18. **Tropical Rainfall Diurnal Cycle in a 20km-mesh Atmospheric GCM:** Kitoh, Akio, Osamu Arakawa

19. **Simulation of High Latitude Climate:** Kvamsto, Nils Gunnar, Byrkjedal, I. Esau

20. **Estimating and Correcting Model Errors in the Ensemble Kalman Filter:** Li, Hong, Eugenia Kalnay, Takemasa Miyoshi and Christopher M. Danforth

21. **A MISR Simulator for GCM Clouds: Cloud Top Height and Optical Depth Histograms from ISCCP and MISR:** Marchand, Roger and Thomas Ackerman

22. **Systematic Errors in Parametrizations in Global NWP: Evaluation Against Observational Data and Budget Studies:** Milton, Sean, Glenn Greed, Malcolm Brooks, Paul Earnshaw, Martin Willett and David Walters

23. **Error Characteristics Caused by Radiation of Global NWP Model:** Murai, Shigeki

24. **The Effects of Solar Radiation on the Daily Mean Heat Flux in Canopy Model:** Nakata, Junko

25. **Turbulence Collision Enhancement in Convective Clouds:** Onishi, Ryo, Keiko Takahashi, Satoru Komori

26. **The Role of SCMs and CRMs for Investigating Biases in NWP and Climate Models:** Petch, John, Steve Derbyshire, Anna Maidens, Martin Willett and Ricky Wong

27. **Using ARM Observations to Evaluate Continental Surface Processes in Atmospheric Climate Models:** Phillips, Thomas and the PCMDI CAPT team

28. **Errors in Tracer Transport, and Convergence to the Exact Answer:** Prather, Michael

29. **Systematic Errors in the NWP System of DWD: Detection, Diagnosis and Recent Progress:** Ritter, Bodo, Detlev Majewski, and A. Seifert

30. **Relationships Between Model Tropical Oceanic Precipitation Biases and Surface Energy Fluxes:** Robertson, Franklin, Julio Bacmeister and Timothy Miller

31. **Modulation of the Diurnal Cycle of Rainfall by the Madden-Julian Oscillation in the CMIP3 GFDL CM2.1 Model:** Sperber, Kenneth

32. **Systematic Error in Tropical Cyclone Track Forecasts from Operational Global Models:** Takeuchi, Yoshiaki

33. **Analyses of Systematic Biases in Diurnal Cycle of Surface Albedo and Radiation Budget:** Trishchenko, Alexander and Shusen Wang

34. **Using Dynamic Regime Composites to Evaluate Model Midlatitude Precipitation Simulations:** Tselioudis, George and Michael Bauer

35. **Systematic Errors in the NCEP Global Forecast System:** White, Glenn, J. Alpert, K. Campana, M. Iredell, R. Kistler, S. Lord, S. Moorthi, H.-L. Pan, and S. Saha

36. **Initial Tendencies of Cloud Regimes in the Met Office Unified Model:** Williams, Keith and Malcolm Brooks

37. Validation of Global Weather Forecast and Climate Models over the North Slope of Alaska Using ARM M-PACE data: Xie, Shaocheng, S. Klein, J. Boyle, J. Hnilo, T. Phillips, G. Potter, and A. Beljarrs

38. Dependence of Land Surface Albedo on Solar Zenith Angle: ARM and SURFRAD Observations, MODIS Retrieval and NCEP NWP Model Parameterization: Yang, Fanglin

39. Diurnal patterns of monsoon rainfall over the Indochina Peninsula - Observations and Model Simulations: Yasunari, Tetsuzo and Hiroshi Takahashi

40. Diurnal cycle of convection, clouds and upper troposphere humidity: Zhang, Yunyan, Steve Klein and Renata McCoy

WEDNESDAY - INTERMEDIATE TIME-SCALES

8:15-9AM Continental breakfast, continued viewing of Tuesday's posters

9:00-9:35AM
H. Annamali (invited): Systematic errors in the simulation of mean and variability of the Asian Summer Monsoon in Climate Models

9:40-09:55AM
Kerry Cook: Simulation of the West African Monsoon System

10:00-10:15AM
Ken Sperber and Duane Waliser: US CLIVAR MJO Working Group: MJO Simulation Metrics

10:20-10:35AM
Graeme Stephens: New emerging global data sets for examining global-scale controls on precipitation and evaluating the representation of clouds and precipitation in weather and climate models

10:40-11:10
BREAK, continued viewing of Tuesday's posters

11:10-11:45AM
John Scinocca (invited): Resolved and Parameterized Waves in Climate Models

11:50-12:05PM
Thomas Jung: Sensitivity of the Simulated Atmospheric Circulation to Horizontal Resolution: From Climate to NWP Resolution

12:10-12:25AM
Guang Zhang: Dissecting Tropical Biases in the NCAR CAM3 and CCSM3

12:30PM – 1:45PM
LUNCH

1:45 - 3:15PM BREAKOUTS:
- Diurnal cycle
- ESNO

3:30 – 6:00PM: INTERMEDIATE TIME SCALE POSTER DISCUSSIONS

1. **The Origin of Systematic Errors in the GCM Simulation of ITCZ Precipitation over Oceans:** Chao, Winston, Max J. Suarez, Julio T. Bacmeister, Baode Chen and Lawrence L. Takacs

2. **Errors in Polar Clouds and Radiative Forcing in the Reanalysis Models:** Chapman, William

3. **Simulation of the West African Monsoon System:** Cook, Kerry

4. **Use of Time Series Reference Sites to Assess Numerical Weather Prediction Reanalyses: Surface Heat Fluxes and Surface Cloud Forcing in the Eastern Tropical Pacific:** Cronin, Meghan

5. **The Role of Land Surface Processes in the Indian Summer Monsoon: A High-Resolution GCM Study:** Demory, Marie-Estelle, Pier Luigi Vidale and Malcolm Roberts

6. **A Multi-Model Evaluation of Systematic Errors of the Tropical Seasonal Cycle in IPCC AR4 20th Century Simulations:** Gualdi, Silvio

7. **Validation of AR4 Models for the New York City Watershed Region:** Horton, Radley, Cynthia Rosenzweig, and David C. Major

8. **The Interaction of the Madden-Julian Oscillation and the Maritime Continent in a GCM:** Inness, Peter and Julia Slingo

9. **Temperature and humidity in IPCC AR4 models: An assessment using AIRS observations:** John, Viju Oommen and Brian Jon Soden

10. **The Effect of High-Frequency, Observed SST Forcing on AGCM Simulations of Indian Monsoon Intraseasonal Variability:** Klingaman, Nicholas, Peter M. Inness, Julia M. Slingo, and Hilary Weller

11. **The North American Monsoon in the AR4 20C3M Simulations:** Kunkel, Ken, Xin-Zhong Liang, and Jinhong Zhu

12. **A Comparison of Climate Prediction and Simulation over Tropical Pacific:** Misra, Vasubandhu, L. Marx, M. Fennessy, B. Kirtman, and J. L. Kinter III

13. **Mean Climate States and Their Resolution Dependences in a 20-km-mesh Global Atmospheric Climate Simulations:** Mizuta, Ryo, Kazuyoshi Oouchi, Hiromasa Yoshimura, Shoji Kusunoki, and Akira Noda

14. **The Role of Convective Moisture Sensitivity in Improving Major Systematic Biases in the Community Climate System Model (CCSM): Neale, Rich**

15. **Simulation of Tropical Variability in HiGEM:** Norton, Warwick, Len Shaffrey, Pete Innes, Kevin Hodges, and James Harle

16. **Three-Dimensional Tropospheric Water Vapor in Coupled Climate Models Compared with Observations from the AIRS Satellite System:** Pierce, David, Tim P. Barnett, Eric J. Fetzer, and Peter J. Gleckler

17. **Identifying Climate Model Deficiencies in Simulating Tropical Intraseasonal Variability: Application of Weather-Forecasting and Single-Column-Modeling Methodologies:** Potter, Jerry, J. Boyle, S. Klein, S. Xie, J. Hnilo, D. Williamson, J. Olson, R. Pincus, X. Wei, and G. Zhang

18. **Turbulent Fluxes at the Surface of the Ocean from Models and Observations:** Romanou, Natassa

19. **Evaluation of the NCEP CFS Tier-2 Experiment with Bias Corrected SST Forecast:** Schemm, Jae-Kyung

20. **Relating the Diversity in Our Models to the Uncertainty in Our Future:** Smith, Leonard

21. **Coupled Model Simulations of Boreal Summer Intraseasonal (30-50 day) Variability: Validation and Caution on Use of Metrics:** Sperber, Ken and H. Annamalai

22. **Performance of New Radiation Parameterization Schemes in the CPTEC-COLA Global Model for Summer Months with Anomaly Precipitation over Central and Southeastern Brazil:** Tarasova, T.A., S.N. Figueroa, I.A. Pisnichenko

23. **Combining multimodel ensembles -- coupling statistics and expert judgment:** Tebaldi, Claudia

24. Impacts of Systematic Model Biases on Intraseasonal Variability of the Asian Summer Monsoon and the Intraseasonal-Interannual Relationship: Turner, A.G., J. M. Slingo, and P. M. Inness

25. How are Seasonal Prediction Skills Related to Model's Systematic Errors in Annual Cycle? Wang, Bin and June-Yi Lee

26. The Warm Bias in the Southeastern Pacific in the NCEP CFS Model: Wang, Wanqiu, Pingping Xie, Wayne Higgins, Meghan Cronin, Phillip Arkin, and Robert Weller

27. Addressing Tropical Biases in GFDL's Global Coupled Climate Models: Wittenberg, Andrew

28. Convectively Coupled Equatorial Waves in the Hadley Centre Climate Models: Yang, G.-Y., B. J. Hoskins and J. M. Slingo

29. Simulations of the 100 hPa South Asia High and Precipitation over the East Asia with IPCC Coupled GCMs: Yu, Yongqiang and Ningfang Zhou

30. Simulations of the Madden-Julian Oscillation in Four Pairs of Coupled and Uncoupled Global Models: Zhang, Chidong, Min Dong, Silvio Gualdi, Harry H. Hendon, Eric D. Maloney, Andrew Marshall, Kenneth R. Sperber and Wanqiu Wang

31. Dissecting Tropical Biases in the NCAR CAM3 and CCSM3: Zhang, Guang

32. The 20th Century East Asian Summer Monsoon Simulated by Coupled Climate Models of IPCC AR4: ZHOU, Tianjun

THURSDAY - LONGER TIME-SCALES

8:15-9AM Continental breakfast, continued viewing of Wednesday's posters

8:50-9:35AM
A) Matthew Hecht: Intrinsic Errors in Physical Ocean Climate Models, and B) Julie McClean: Ocean Model Metrics (both invited)

9:40-09:55AM
John Turner: Problems in the Representation of the Antarctic Climate in Coupled GCMs

10:00-10:15AM
Jerry Meehl: Systematic errors in El Nino teleconnections and associated extreme events over North America

10:20-10:35AM
Silvio Gualdi: A multi-model evaluation of systematic errors of the tropical seasonal cycle in IPCC AR4 20th century

10:40-11:10
BREAK, continued viewing of Wednesday's posters

11:10-11:45AM
Sandrine Bony (invited): Uncertainties in cloud feedbacks and their implication for climate sensitivity

11:50-12:05PM
Keith Williams: Constraining the Range of Climate Sensitivity through the Diagnosis of Cloud Regimes

12:10-12:25AM
David Sexton: Observational constraints on probabilistic predictions based on imperfect climate models

12:30PM – 1:45PM
LUNCH

1.45 - 3:15PM BREAKOUTS:
Tropical biases
Monsoons and Intra-seasonal oscillations

3.30 - 6 PM: LONGER TIME SCALE POSTER SESSION

1. **Ocean Heat Content Variability in the Second Half of the 20th Century: Results from the IPCC AR4 Simulations:** AchutaRao, Krishna, Benjamin Santer, Peter Gleckler, Karl Taylor, Masayoshi Ishii, Tim Barnett, Jonathan M. Gregory, David W. Pierce, Ronald J. Stouffer, and T.M.L. Wigley

2. **Improvements in ENSO Simulation in the AR4 Models (Compared to CMIP2):** AchutaRao, Krishna and Ken Sperber

3. **Proposed Metrics to Evaluate Coupled Model Performance in the Tropical Pacific:** Balmaseda, Magdalena, A. Timmerman, A. Clements, M. McPhaden

4. **SLP Interannual Variability over Southern South America as Represented by IPCC-AR4 Models:** Barros, Vicente, Alejandro Di Luca and Ines Camilloni

5. **Developing a Performance Metric for the Simulation of Rainfall Variability and Change: The Case of the Sahel:** Biasutti, Michela

6. **A Distance-based Methodology for Comparing Longer-Term, Multi-Metric Model Performance:** Brekke, Levi, Michael Anderson, Michael Dettinger, Edwin Maurer

7. **Energy Dissipation in the Tropical Ocean and ENSO Dynamics:** Brown, Jaclyn, Alexey V. Fedorov

8. **Composite Representation and Scenarios of Surface Temperature and Precipitation in Southern South America by IPCC-AR4 Models:** Camilloni, Ines, Vicente Barros

9. **Tropical Pacific Interannual Variability in Coupled Climate Models: The Role of Mean Ocean Conditions vs. Atmospheric Forcing:** Capotondi, Antonietta

10. **A Comparison of Systematic Uncertainties in Perturbed Physics and IPCC AR4 Multi-Model Ensembles:** Collins, Mat, Ben Booth, Glen Harris, James Murphy, David Sexton and Mark Webb

11. **Radiative Transfer in Global Models: Problems and Prospects:** Collins, Bill

12. **Tropical Eastern Pacific Climate, Biases, and Sensitivities:** de Szoeke, Simon

13. **Analysis of Future Climate Change Projections for the Italian Alpine Region from the IPCC AR4 Simulations:** Faggian, Paola, Filippo Giorgi

14. **Systematic Errors for the International SGMIP (Stretched-Grid Model Intercomparison Project) Multi-Model Ensemble Simulations:** Fox-Rabinovitz, Michael, Jean Cote Bernard Dugas, Michel Deque and John L. McGregor

15. **Hadley Circulation Changes under Global Warming:** Gastineau, Guillaume and Herve Le Treut

16. **Exploring the utility of metrics for the evaluation of Climate Models**: Peter Gleckler and Karl Taylor

17. **The Impact of Interdecadal Variability on the Skill of Climate Models:** Grimm, Alice, A. K. Sahai, and C. F. Ropelewski

18. **A Model Validation Strategy to Reduce the Persistent Spread in Projections of Future Climate:** Hall, Alex

19. **Evaluation of Ice Biases in a Global Coupled (0.4 degrees) Ocean/Sea Ice-Model:** Ivanova, Detelina, Julie McClean, Elizabeth Hunke, Don Stark

20. **Impacts of Systematic Error Reduction on CAM3.1 Sensitivity to CO2 Forcing:** Jackson, Charles, Yi Deng, Gabriel Huerta, Mrinal K. Sen

21. **Performance of a 20-km mesh Global Atmospheric Model in a AMIP-type Experiment:** Kusunoki, Shoji

22. **Simulation of the Great Plains Low-level Jet in the AR4 Coupled GCMs:** Launer, Zachary, Edward Vizy, and Kerry H. Cook

23. **Intercomparison of the Northern Hemisphere Winter Mid-Latitude Atmospheric Variability of the IPCC Models by Wave Activity Performance Metrics:** Lucarini, Valerio, Sandro Calmanti, Alessandro Dell'Aquila, Paolo M. Ruti, Antonio Speranza

24. **Mid-Latitude Atmospheric Regimes, Subtropical Jet, and ENSO**
25. Lucarini, Valerio, Sandro Calmanti, Alessandro Dell'Aquila, Paolo M. Ruti, Antonio Speranza

26. Investigating the Influence of Systematic Biases on the Annual Cycle and ENSO Variability in the Coupled GCMs Using Flux Correction Method: Manganello, Julia, Bohua Huang

27. Modelling the Stratosphere in Coupled Atmosphere Ocean Models: Systematic Changes in Mean Climate: Manzini, E., M.A. Giorgetta, E. Roeckner, and M. Esch

28. Systematic Errors in the IPCC AR4 Model Simulations of Atmospheric and Terrestrial Components of the Arctic Ocean Freshwater Budget: Pavlova, Tatyana, Vladimir Kattsov, Valentin Meleshko

29. Trends in Short-wave and Long-wave Radiation in Models Compared to Satellite Observations: Penner, Joyce, Natalia Andronova, and Li Xu

30. Evaluating Climate Model Simulations of Clouds, Radiation, and Precipitation: Pincus, Robert

31. The Mean Climate of the IPCC AR4 Models: Individual, Systematic, and Ensemble Mean Errors: Reichler, Thomas and Junsu Kim

32. Sensitivity of Arctic Subsurface Hydroclimate to Physical Terrestrial Representation in Global Climate Model: Saito, Kazuyuki

33. Assessing Climate Change Risks Using a Multi-Model Approach: Equal Weighting Versus Weighting by Performance: Scholze, Marko, W. Knorr & I.C. Prentice

34. Systematic Errors and SST Biases in HiGEM: Shaffrey, Len, Ian Stevens, Amna Jrrar, and James Harle

35. Evaluation of Model Potential Predictability and Predictive Skill for Terrestrial Hydrology in a Bayesian Framework: Sheffield, Justin, Lifeng Luo, Eric F. Wood

36. Discriminating Robust and Non-Robust Atmospheric Circulation Responses to Global Warming: Sigmond, Michael, Paul J. Kushner and John F. Scinocca

37. Uncertainty and Confidence in Climate Forecasting: Stainforth, David

38. A Multi-Year Comparison of Lower Stratospheric Temperatures from CHAMP Radio Occultation Data with MSU/AMSU Records: Steiner, Andrea, G. Kirchengast, M. Borsche, U. Foelsche, and T. Schoengassner

39. Lagrangian Transport of Water Vapor and Cloud Water in the ECHAM4 GCM and Its Impact on the Cold Bias: Stenke, Andrea, Volker Grewe, Michael Ponater and Robert Sausen

40. Atmospheric Feedbacks Over the Pacific Cold-Tongue: Results From Models and Observations: Sun, D.-Z., T. Zhang, C. Covey, S. Klein, W. Collins, J.J. Hack, J. Kiehl, G.A. Meehl, I. M. Held, and M. Suarez

41. The Relationship Between the Strength of the ENSO and the Mean Climatology in the HadCM3 Perturbed-Physics QUMP Ensemble: Toniazzo, Thomas, Matthew Collins and Josephine Brown

42. Coupled Model Sensitivity of the ENSO to Forcing by Westerly Wind Bursts: Toniazzo, Thomas, Pete Inness, Julia Slingo

43. Cloud Water Distribution in the Control Climate and the Response of Clouds to Carbon Dioxide Increase: Tsushima, Yoko

44. The Effect of Doubled CO2 and Model Basic State Biases on the Monsoon-ENSO System: The Mean Response and Interannual Variability: Turner, A.G., P.M. Inness, J.M. Slingo

45. Systematic Errors in Tropical Cloud Distribution and Climate Sensitivity: Volodin, Evgeny

46. The North Pacific Climate Variability as Simulated by Coupled Atmosphere-Ocean Models: Wang, Muyin

47. Historical Climate Simulations over East Asia: Wang, Wei-Chyung, Caiming Shen, Wei Gong, Quansheng Ge, Jingyun Zheng, James Bradbury, Raymond Bradley, Casper Ammann, Ying Xu, Youbing Peng and Takehiko Mikami

48. Systematic Performance of the NCEP Climate Forecast System: White, Glenn, D. Behringer, S.Moorthi, S. Nadiga, H.-L. Pan, and S. Saha

49. Systematic Errors in GCM Simulated Radiation Budgets Infered from Surface Observations: Wild, Martin

50. CMIP3, IPCC and the Earth System Grid: Center for Enabling Technologies (ESG/CET): Williams, Dean and Bob Drach

51. Constraining the Range of Climate Sensitivity through the Diagnosis of Cloud Regimes: Williams, Keith and George Tselioudis

52. Transient Climate Response and Reproducibility of Present Climate States by Atmosphere-Ocean Coupled General Circulation Models: Yokohata, T., S. Emori, T. Nozawa, T. Ogura, N. Okada, T. Suzuki, Y. Tsushima, M. Kawamiya, A. Abe-Ouchi, H. Hasumi, A. Sumi, and M. Kimoto

53. Using a Two-Oscillator View to Examine the CGCM Deficiency in ENSO Simulations: Yu, Jin-Yi and Hsun-Ying Kao

54. Arctic Sea Ice Simulations and Projections by the IPCC AR4 Climate Models: Credibility and Systematic Bias: Zhang, Xiangdong

FRIDAY AM

8:15-9AM Continental breakfast, continued viewing of Thursday's posters

9:00 – 10:30AM

"Shorter" time-scale presentations and discussion
- Session rappateur synthesis
- Diurnal cycle breakout summary

"Intermediate" time-scale presentations and discussion
- Session rappateur synthesis
- Monsoon and Intra-seasonal oscillation breakout summary
- Tropical biases breakout summary

10:30-11:00AM
BREAK, continued viewing of Thursday's posters

"Longer" time-scale presentations and discussion
- Session rappateur synthesis
- ENSO breakout summary
- Ensembles (perturbed physics) breakout summary
- Metrics breakout summary

CLOSING REMARKS

WORKSHOP CLOSURE: 12:30PM

POST WORKSHOP DISCUSSIONS

1:30PM break-out continuations
- Ad-hoc ENSO group
- Ad-hoc tropical biases group